Rethinking Economic Sanction Success: Sanctions as Deterrents

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Abstract: This paper examines the effects of sanctioning a country involved in a militarized dispute on the probability that the sanctioned country or any other country involved in the dispute will be involved in a militarized dispute in the future. It also looks at the effects of the sanction on the probability that similar countries to the ones in the sanctioned dispute will participate in another dispute in the future. The study uses the Correlates of War data on militarized interstate disputes and Hufbauer et al.'s data on economic sanctions. The paper shows that countries involved in a dispute and countries similar to the ones involved in the dispute are less likely to participate in another dispute in the future if one of the countries involved in the original dispute was sanctioned. These results are relevant to foreign policy debates on the role of economic sanctions and provide an insight on potentially unintended effects of economic sanctions.

1. Introduction

In the past few decades, the use of economic sanctions has increased substantially and sanctions have become the foreign policy tool of choice for many countries. In theory, the way sanctions work is simple; sanctioned countries (called targets) suffer costs resulting from actions taken by the sanctioning countries (called senders). In order to avoid the costs, targets modify their behavior in the direction desired by the senders. The problem is that this theory rarely holds in practice. There are few sanctions that managed to change the behavior of targets in a significant way. Thus, many scholars believe that sanctions are used mostly for sending messages to the international community and for deterring certain behaviors. The intuition of this paper is that countries perceive economic sanctions as signals of disapproval and expect senders to impose more sanctions on countries that repeat the target's "offense." Thus, countries are less likely to repeat the "offense" because they try to avoid the costs associated with economic sanctions. This paper investigates whether sanctioning a country involved in a militarized dispute makes countries involved in the dispute and countries like the ones in the dispute less likely to participate in other disputes in the future.

At a first glance, data seems to support the deterrence hypothesis. Figure 1A shows the number of disputes in which India participated before and after a military dispute with Pakistan (the first two bars), the number of disputes in which both India and Pakistan participated before and after the same dispute (the third and fourth bars), the number of disputes in which countries with similar capabilities to India participated before and after the Indian-Pakistani conflict (the fifth and sixth bars) and the number of disputes in which countries with similar democratic governments to India participated before and after the same conflict (the last two bars). Figure 1B is similar to 1A except that 1B uses another Indian-Pakistani conflict for comparing the number of disputes before and after. The conflict in A was sanctioned[1] and the one in B was not. The United States suspended military trade and economic aid to India until India withdrew the troops at the Pakistani border in dispute A, but no economic action was taken in dispute B. The difference between 1A and 1B is striking. In 1A, India, Pakistan and similar countries to India participated in less disputes in the five years following the sanctioned dispute than in the five years before

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[1] A militarized dispute is called a sanctioned dispute if at least one participant country in the dispute was sanctioned because its involvement in that dispute.

it. In 1B, the same countries participated in more conflicts in the five years after the unsanctioned[2] dispute than in the five years before it.

The idea that sanctions are meant to express disapproval and deter is not new. Galtung (1967) is one of the first authors to point out that sanctions are a way of communication between countries and that senders express disapproval of targets' actions. Chan (2000) expands this idea and states that sanctions act as signals to other countries who might behave similarly to the target. Lindsay (1986) believes that the four possible objectives of economic sanctions are compliance, subversion, domestic symbolism, deterrence and international symbolism (sending messages to the international community). This paper tests whether economic sanctions imposed on a country involved in a militarized dispute deters future militarized actions by showing disproval of militarized disputes and willingness to inflict costs.

There are many papers that predict militarized conflicts. Choi et al. (2006), Dixon (1994), Fearon (1994), Mousseau (1998), Oneal et al. (1996), (1997), and (2003) and Raymond (1994) believe that democratic countries are less likely to engage in international conflicts. This study also includes democracy as one factor that predicts future conflicts. Russett et al. (1998) adds relative military capabilities as a determinant of militarized disputes. This paper also controls for military capabilities measured as military personnel as percentage of total population. Nordhaus and al. (2006) estimate that the probability of a militarized conflict between two countries is a function of the number of years they were at peace and of other variables. This study also controls for the country's belligerence by adding in the analysis the number of militarized disputes in which the country was involved in previous years and the level of violence reached in previous disputes. Unlike previous studies, this one considers the effect of previous dispute's fatalities on the outbreak of future disputes.

The paper that looks at the effect of economic sanctions on the outbreak of militarized disputes is Drury (2004). The author estimates the effects of economic sanctions on the probability of an outbreak of a militarized dispute between sender and target. He finds that sanctions are complements to militarized disputes and not substitutes. This paper looks at the effects of sanctioning a country involved in a militarized dispute on the probability that the same country or similar countries will participate in *another* dispute in the future.

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[2] A militarized dispute is called an unsanctioned dispute if no participant country in the dispute was sanctioned because its involvement in that dispute.

This paper's framework is simple. At time t, countries $T_1,\ldots,T_n$ get involved in a militarized conflict, C. Countries $S_1, \ldots S_m$ impose economic sanctions E on some or all of the countries involved in the conflict C. Country M_i is a country with similar military capabilities to country T_i[3], country D_i is a country with similar democratic system to the system in T_i, and G_i is a country situated in the same geographic area as T_i. The paper looks at the effect of economic sanction E on the probability that country T_i will be involved in a militarized conflict $C' \neq C$, in the period (t, t+5], on the probability that country M_i will be involved in $C'' \neq C$, in the period (t, t+5], on the probability that country D_i will be involved in $C''' \neq C$ in the period (t, t+5], and on the probability that country G_i will be involved in $C'''' \neq C$ in the period (t, t+5].

The study also looks at the effects of reducing trade or development aid to countries involved in a conflict if an economic sanction was not imposed. The paper analyzes instances in which a decline in trade or aid is observed, but the country reducing the trade or aid made no official threats, didn't impose economic sanctions publicly and didn't link the decline to a militarized dispute[4]. If reducing trade and aid are messages for the international community, then a decline in trade or aid that is not accompanied by a public economic sanction is less visible than an economic sanction, and thus, less effective in deterring future military conflicts. In the above framework, we call τ a significant[5] decrease in trade between United States and T_i, and we call α, a significant[6] decrease in total development aid to T_i. The paper investigates the effects of τ and α on the probability that country T_i will be involved in a militarized conflict $C' \neq C$, in the period (t, t+5].

The paper finds that economic sanctions decrease the probability that T_i will participate in another dispute by 9%, the probability that M_i will participate in another dispute by 12%, the probability that D_i will participate in another dispute by 5% and that G_i will participate in another dispute by 11%. Finally, the study concludes that a significant decrease in trade or aid to T_i that is not accompanied by an economic sanction does not affect the future military behavior of T_i.

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[3] i=1,…,n.

[4] If an economic sanction is not recorded in Hufbauer et al.'s dataset, it will show up simply as a decline in trade/aid in this analysis.

[5] A significant decrease is a decrease of 50% or more in trade or trade/ $GDP_{Ti.}$ For more details, read the definitions for trade50, trade75, tradegdp50 and tradegdp75 in Table 1 Appendix 2.

[6] A significant decrease is a decrease of 50% or more in aid or aid/ $GDP_{Ti.}$ For more details, read the definitions for aid50, aid75, aidgdp50 and aidgdp75 in Table 1 Appendix 2.

The rest of the paper is organized as follows. Section 2 describes the data and the way the variables are constructed, Section 3 presents the econometric model. Section 4 shows the results of the paper and Section 5 concludes.

2. Data

This study uses six types of variables, dispute characteristics, country characteristics, probability, sanction, trade and development aid variables. First, dispute characteristics variables are taken from the Correlates of War -The Militarized Interstate Dispute v3.02. This data provides information about 2331 disputes in which one or more country threatened, displayed, or used force against one or more other countries between 1816 and 2001. This paper uses data at participant-incident level which means that one observation is a country T_i involved in a dispute C. For example, for a conflict between Albania and Yugoslavia in 1921, the dataset has two observations, one for each participant. The two dispute characteristics variables used are fatalities and violence. Fatalities approximates the number of fatalities of country T_i in dispute C and violence measures the highest level of violence taken by country T_i in dispute C. Table 1 shows the definitions of all variables and Table 2 shows the descriptive statistics.

Second, the country characteristics variables are democracy, military, previous disputes and region dummies. Democracy is taken from the Polity IV dataset and measures openness of political institutions on a scale from 0 to 10, where 0 is the least democratic country and 10 is the most democratic country. The Correlates of War contains 5600 dispute-country observations of which 943 qualify as very democratic (democracy score=10) and 1921 as least democratic (democracy score=0). Military comes from another Correlates of War dataset called National Military Capabilities v3.02 and it measures military personnel as percentage of total population. Finally, previous disputes measures the number of disputes in which country T_i participated in the 5-year period before the outbreak of dispute C. The values of this variable are quite large mostly because this dataset contains countries that were involved in at least one conflict, thus contains mostly belligerent countries. The mean for previous disputes is 9.41 and the median is 6. Countries like Iran and Germany have more than 60 disputes in some 5-year periods and countries like Luxembourg, Finland and Denmark have less than 5 disputes in most 5-year periods.

Third, this paper uses four probabilities as dependent variables. P is the probability that country T_i will participate in another conflict C'≠C in (t, t+5]. For example, in 1974, Turkish troops invaded northern Cyprus. Cyprus shows up as a participant in a militarized conflict in 1974 along Turkey. In 1978, Egypt initiated a military conflict against Cyprus, thus Cyprus shows up as a participant in another conflict two years after the 1974 conflict. Thus, P=1 for Cyprus in the 1974 conflict. As mentioned before, the group of countries represented in this dataset is quite belligerent and it is not surprising that the mean P for these countries is .72.

Another probability is P^M, the probability that a country M_i with similar military capabilities to country T_i will participate in conflict C''≠C in (t, t+5]. Two countries are considered to have similar military capabilities if their military score is in the same decile. For example, in 1943, the United States had .006% of its population in its military service and United Kingdom had .008% of its population in military service. Both countries' scores were in the 10th decile in the dataset, thus for 1943 disputes, United States and United Kingdom are considered to have similar military capabilities.

The other probabilities are P^D and P^G. P^D is the probability that a country D_i that has the same democracy score as T_i will participate in conflict C'''≠C in (t, t+5]. And P^G is the probability that a country G_i that situated in the same geographic area as T_i will participate in another conflict C''''≠C in (t, t+5].

Fourth, the paper uses sanction variables from Hufbauer et al.'s dataset[7]. This dataset provides information on 201 economic sanctions imposed on various countries between 1914 and 2000. This paper uses the only sanctions that are directly related to militarized conflicts; the stated goal of the sanction is to punish participant in a militarized dispute, to stop a militarized dispute, etc. 53 countries in our sample were sanctioned because of their participation in a militarized dispute and 191 countries were involved in conflicts in which at least one country was sanctioned because of its participation in the conflict. The variable sanction is a dummy that takes value 1 if any country involved in conflict C is sanctioned because its involvement in the conflict.

Other sanction variables are multi, help t, cost t, cost s, success, sender not in dispute and big. Multi is a dummy that takes value 1 if more than one country imposed the sanction. Help t is a dummy that

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[7] The sanction data is taken from the forthcoming book Economic Sanctions Reconsidered, 3rd edition by Hufbauer et al.

takes value 1 if the target received international assistance. For example, the League of Nations imposed economic sanctions on Italy in 1935 because of the Italian-Abyssinian conflict. Countries like Austria, Hungary and Albania refused to apply the sanctions (Hufbauer et al. forthcoming) and offered assistance to the target, thus help t for Italy in the Italian-Abyssinian conflict is 1. Cost t is an estimate of the economic costs that sanctions imposed on the target and it is measured as percentage of target's GNP. Cost s is an estimate of the economic costs to the sender measured on a scale from 1 to 4, where 1 is major gain for the sender and 4 is major cost for the sender. Success is a variable that measures sanction policy results and sanction effects. It takes values from 1 to 16, where 1 is total failure and 16 is total success. In our dataset, the sanction imposed on Turkey by United States in 1974 because of the Turkish invasion of northern Cyprus received a score of 1. The sanction didn't affect the conflict between Turkey and Cyprus in any significant way. The sanction imposed on Yugoslavia in 1921 because of its invasion of Albania has a success score of 16. The sanction is considered a success because Yugoslavia withdrew its troops from Albania apparently to avoid the consequences of sanctions. The final two sanction variables are sender not in dispute, a dummy that takes value 1 if the sender of the sanction is not a participant in the conflict ($T_i \neq S_j$, for any i=1,…,39 and j=1,2), and big, a dummy that takes value 1 if any of the senders is a big country.

Fifth, the study uses four trade variables, trade50, trade75, tradegdp50 and tradegdp75. Trade50 and trade75 are dummies that take value 1 if trade between United States and T_i decreased at least 50% and 75%, respectively in the year following the outbreak of conflict C. Similarly, tradegdp50 and tradegdp75 are dummies that take value 1 if trade between United States and T_i's as a share of T_i's GDP decreased at least 50% and 75%, respectively in the year following the outbreak of C. These dummies capture declines in trade that are not associated with economic sanctions, thus these dummies take value 0 if the decrease in trade is accompanied by import or export sanctions imposed on T_i. These declines in trade are rare. Out of 5600 observations, there are only 137 instances in which a country involved in a dispute experienced a decline of 50% or more in trade with the United States the year after the outbreak of a dispute and only 71 instances when the decline was larger than 75%.

Finally, the aid variables are aid50, aid75, aidgdp50 and aidgdp75. These are dummies similar to the trade dummies. Aid50 and aid75 take value 1 if total development aid to T_i declined by at least 50% and 75%, respectively and aidgdp50 and aidgdp75 take value 1 if total development aid to T_i as a share of

T_i 's GDP declined by at least 50% and 75%, respectively. Similarly to the trade dummies, the aid dummies become 0 if the decline in aid was accompanied by financial sanctions imposed on T_i.

3. Econometric Strategy

The goal is to estimate the effect of sanctioning a country involved in a militarized dispute on the probability that any country involved in that dispute will participate in another dispute in the following 5 years. The paper uses a basic probit model like the one below,

$$P_{kj}=F(\beta_0+ \beta_1*sanction_j+ \beta_2*country\ characteristics_{kj}+ \beta_3*dispute\ characteristics_{kj}+ \beta_4*t_{kj}),\ (E1)$$

where k indicates the country, j indicates the dispute, P_{kj} is the probability P for country k and dispute j and t_{kj} is a year dummy. Next, the study adds interaction terms to (E1) to check whether certain sanction characteristics make the sanction effect stronger or weaker. The study uses the equation,

$$P_{kj}=F(\gamma_0+ \gamma_1*sanction_j+ \gamma_2*sanction_j*sanction\ characteristics_j + \gamma_3*country\ characteristics_{kj}+ \gamma_4*dispute$$
$$characteristics_{kj}+ \gamma_5*t_{kj}).\ (E2)$$

Then, the paper tests whether sanctioning a country involved in a conflict affects the probability of militarized conflict of similar countries to the ones in the sanctioned conflict. The model is

$$\rho_{kj}=F(\delta_0+ \delta_1*sanction_j+ \delta_2*country\ characteristics_{kj}+ \delta_3*t_{kj}),\ (E3)$$

where ρ_{kj} is P^M, P^D or P^G and country characteristics is military when ρ_{kj} is P^M, democracy when ρ_{kj} is P^D and region dummies when ρ_{kj} is P^G.

Finally, the paper investigates if declines in trade or aid with country k that are not accompanied by economic sanctions affect the probability that k will participate in another conflict in the future. The new model is

$$P_{kj}=F(\zeta_0+ \zeta_1*X_{kj}+ \zeta_2*\text{country characteristics}_{kj}+ \zeta_3*\text{dispute characteristics}_{kj}+ \zeta_4*t_{kj}), \quad (E4)$$

where X_{kj} is trade50, trade75, tradegdp50, tradegdp75, aid50, aid75, aidgdp50 or aidgdp75.

4. Results

Table 3 column (1) reports results for equation (E1). The most important finding of (1) is that economic sanctions reduce the probability that T_i will participate in another militarized dispute by 9%. Democracy is positive and not statistically significant. Most studies find that democracies are less likely to fight each other. Our result doesn't necessarily contradict these studies; it only suggests that the level of democracy in a country has no effect on the probability that that country will participate in a militarized dispute against a democracy or a non-democracy. The other country characteristics are highly significant; an increase of 1% in military personnel as share of population results in an increase of 7.79% in P and an increase of 1 in number of previous disputes increases P by 3%. These results support the view that more belligerent countries characterized by large military and numerous past militarized disputes are more likely to be part of militarized disputes in the future.

(1) also shows that an increase in the level of fatalities in the present conflict decreases the probability that the country that suffered the fatalities will be involved in another conflict in the future. It is not a surprising result; countries that suffered large human life losses are probably lacking capabilities or are too demoralized to start other conflicts soon after the large fatality dispute. Violence has no effect on P. The highest degree of violence reached by a country in a conflict doesn't depend on the country's belligerence alone, but also on its adversaries' actions, and thus, violence in the present conflict explains little of the probability of a future dispute.

Next, the results in (2)-(8) correspond to (E2). (2)-(8) interact sanction characteristics with the sanction variable while keeping all the other controls from (1). A key result is that multi is negative and significant and that the sanction coefficient becomes positive and insignificant. Thus, sanctions deter future military disputes only when they are multilateral, that is when sanctions are imposed by multiple senders.

Many studies argue that economic sanctions are more successful in attaining the stated goals if they are multilateral because the target is less likely to find substitutes for the lost trade and aid and the sanction is likely to impose larger costs. This result shows that multilateral sanctions are also more likely to deter future behavior probably because the message of disproval is stronger when coming from more countries and because the threat of future economic costs is bigger when sanction is backed by more than one country.

(4) shows that larger costs imposed on targets make the sanction effect stronger. Large economic sanction costs signal willingness to impose large economic sanction costs on future "offenders," thus sanctions that impose large costs on their targets better deter than the ones that impose low costs. An even more interesting result is the sender's cost result. The marginal effect of sanction is negative only if the sender's cost is higher or equal to two[8]. So, (5) shows that economic sanctions have a negative effect on P only if the sender suffers some costs as well. This result is consistent to previous literature that says that senders need to incur costs of their own in order to convince the international community they are committed to the message they are sending.

Another interesting result is that the sanctions have a negative effect on P only if the sender is a large country or a coalition of countries. It is an intuitive result since a warning message from a small country is less important to the international community than a message from a large and powerful country. However, it is hard to generalize this result since our sample consists mostly of big senders.

Finally, whether the target received international assistance, whether the sanction was successful in attaining the official goals or whether the sender was one of the participants in the militarized dispute has no additional effects on P. The results in (1)-(8) are certainly interesting, but it is important to mention some possible problems with the analysis. The number of sanctions used here is small and the particular circumstances around those sanctions might affect the outcomes we observe. Other factors like national leaders' personalities, world events and luck play a role in the outcome of a sanction (Hufbauer et al. 1985, p.79). These less tangible factors are not considered in this analysis.

Next, Table 4 presents the results corresponding to (E3). (1) regresses P^M on sanction, military and year dummies, (2) regresses P^D on sanction, democracy and year dummies and (3) regresses P^G on sanction,

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[8] Cost s is a variable that takes 4 values, 1=the sanction created some sort of gain for the sender, 2=little loss to sender, 3=modest loss to sender, and 4=major loss to sender.

region and year dummies. The results show that economic sanctions decrease P^M by 12%, P^D by 5% and P^G by 11%. Thus, sanctions are messages of disapproval that are heard by other countries than the ones involved in the sanctioned dispute. Similar countries are feeling warned that certain behavior is unacceptable and they modify their behavior to avoid the costs associated to economic sanctions.

Tables 5 and 6 estimate the effects of declines in trade or aid on P. These results correspond to (E4). It seems that declines in trade have no effect on the probability that the country suffering this decline in trade will participate in another dispute in the next 5 years. It is certainly possible that the decline in trade observed soon after the outbreak of the conflict occurs because the country's infrastructure is destroyed by the conflict and not because United States intentionally decreased trade with that country to punish or warn that country. In that's the case, it is not surprising that the targets[9] are not modifying their behavior. But large drops in development aid are less likely to be anything else but punishments or warning messages. And as seen in Table 6, large declines in aid have no effect on P when they are not accompanied by economic sanctions. Thus, economic policies that are not visible don't have a deterrent effect. Senders need to send clear messages of disproval that can be heard and understood by all countries in order to modify future behavior.

It is important to mention that the way trade and aid variables were constructed might influence the above results. Data on total trade was used to construct the trade variable, thus if United States cut the trade in one specific area (possibly one in which United States has monopoly) and the total trade did not change much, then we don't observe this policy. Thus, we might be ignoring exactly some trade policy that can have an important impact on target's economy and have an important deterrent effect. Also, aid variables are target's total aid received from all sources. So, if only one country decides to cut the aid to the target and that cut is not large enough to be noticed in the total aid, then we don't observe this policy in the aid variables.

Finally, the paper examines three alternative specifications[10]. First, the study investigates the effect of sanctioning a country involved in the militarized dispute on the probability that the initiator of the conflict will initiate another conflict in (t, t+5]. Economic sanctions reduce the probability that the initiator

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[9] We call targets the countries that experience the decline in trade or aid although no economic sanctions were imposed in those cases.

[10] The results from these final approaches are not presented in the tables at the end of the paper.

will initiate another conflict by 8% and declines in trade or in aid that is not accompanied by economic sanctions have no effects on this probability. It is important to mention that choosing an initiator in a militarized conflict is difficult and highly subjective, thus the results based on these variables are less reliable than we would like.

Second, the study looks at countries' behavior after a time has passed from the outbreak of the first dispute. The dependent variables are the probabilities that T_i will participate in any conflict in (t+1, t+6], allowing for the present conflict to end and for late sanctions or trade changes to take effect. This change doesn't modify the basic results. Economic sanctions reduce the probability that T_i will participate in a dispute in the future and declines in trade and aid don't affect the probability in any significant way.

Third, the Correlates of War contains a wide range of militarized disputes, from simple threats of forces to joining an interstate war. In order to avoid drawing important policy conclusions based on minor disputes, we limit the sample to incidents that involve at least some show of force. The results are similar to the ones obtained using the whole sample; sanctions decreases P by 8%, P^M by 11%, P^D by 13%, P^G by 19% and declines in trade and aid don't affect P.

5. Conclusion

The central intuition is that economic sanctions imposed on countries involved in militarized conflicts show sender's disproval of militarized conflicts and a willingness to impose economic costs on similar countries involved in militarized conflicts. Thus, countries that were sanctioned due to their involvement in a militarized dispute, countries that took part in the sanctioned dispute or countries similar to the ones in the sanctioned dispute are less likely to participate in future disputes because they try avoiding the economic and political costs associated with economic sanctions.

This study finds that economic sanctions decrease the probability that a country in the militarized dispute will participate in another dispute by 9%. The marginal effect of economic sanctions is negative and significant only if the sanction is multilateral and if the sender bears some economic costs as a result of the sanction. The effect of economic sanctions is stronger when the target cost is larger. Then, the paper finds that economic sanctions make countries similar to the ones in the sanctioned dispute less likely to

participate in other militarized disputes in the future. Sanctions decrease the probability that M_i will participate in another dispute by 12%, that D_i will participate in another dispute by 5% and that G_i will participate in another dispute by 11%. Finally, the study finds that decreasing trade and aid to a country involved in a militarized dispute without imposing economic sanctions have no effect on the future military behavior of this country.

A number of lessons can be drawn from the above results. Economic sanctions deter future military behavior only if the sanctions are imposed by multiple senders, or if the sender is a large country. The deterring effects are larger when the target suffers large economic costs from the sanction. Also, the sanctions deter only if the sender bears some economic costs from the economic sanction. Thus, import and export sanctions might deter better than financial ones, since the sender costs imposed by financial sanctions are usually very small or negative. Cutting trade or aid tacitly does not deter future military actions. The decrease in trade or aid needs to be made public and visible to all countries involved in the dispute and to all countries similar to the sanctioned ones.

This study provides some answers regarding the deterrent effect of economic sanctions, but many important questions are left unanswered. If a sender sanctions a country involved in a dispute, but it doesn't sanction another country in a similar situation, does the sender's message become less credible? Are certain governments more likely "to hear" the message than others? Do large sender and target costs borne by innocent civilians worth the 9% drop in the probability of another dispute? Future research should investigate these aspects of economic policy that could affect the success of sanctions as deterrents.

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Figure 1A. **Number of disputes 5 years before and 5 years after the 1971 Indian-Pakistani militarized dispute**
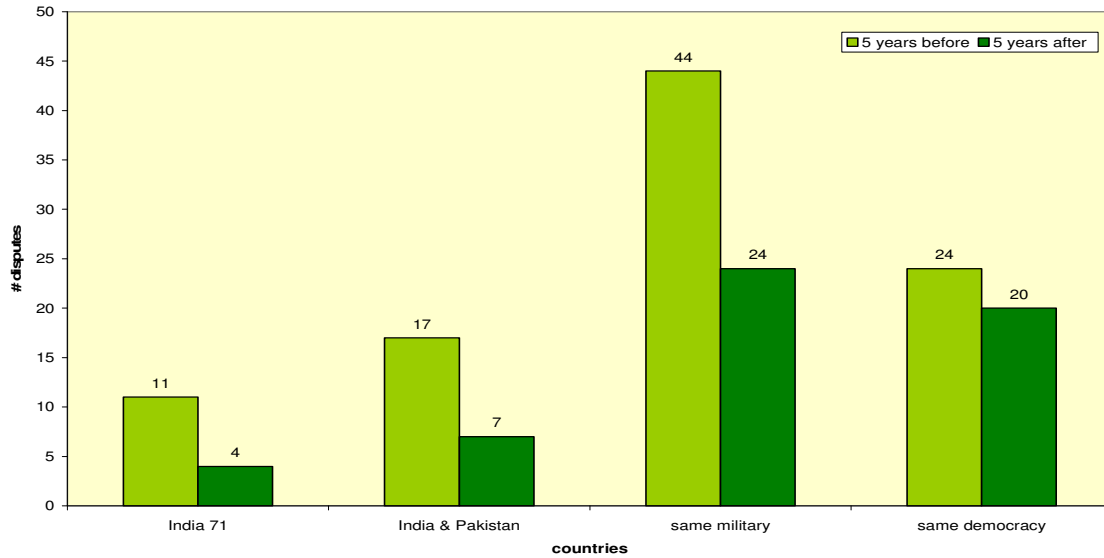
Figure 1B. **Number of disputes 5 years before and 5 years after 1982 Indian-Pakistani militarized dispute**
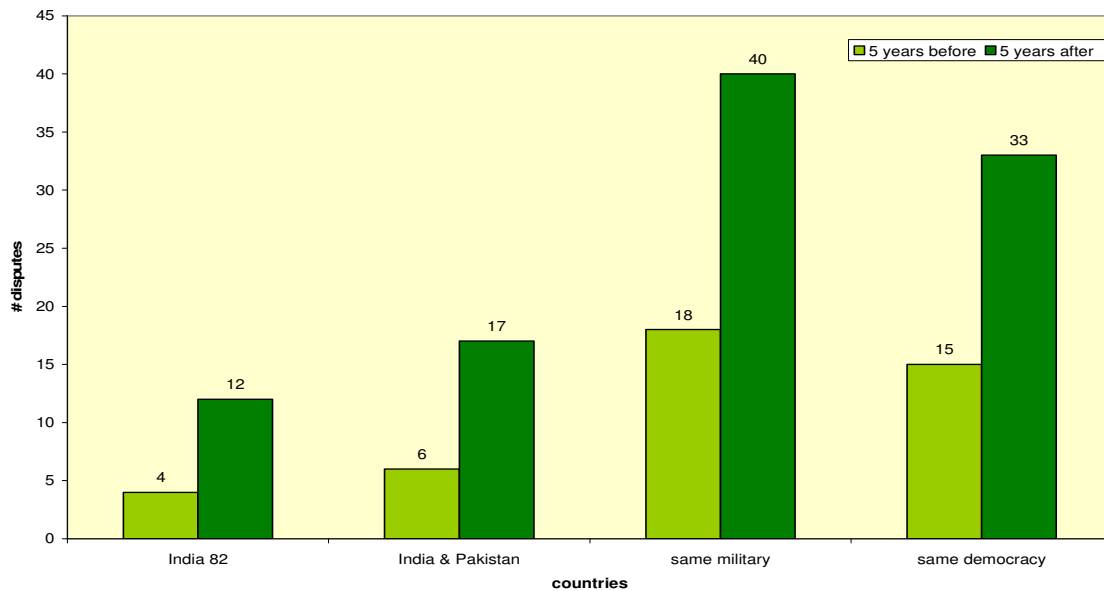
Sources: Hufbauer et al. (2006), Correlates of War – Militarized Interstate Dispute Data v3.02 and National Material Capabilities Data Set v3.02, Polity IV, and author's calculations.

Notes: The first two bars show the number of disputes for India, the next two show the number of disputes for all the countries involved in the dispute, the next two show the number of disputes for countries with similar military capabilities to India and the last two bars show the number of disputes for countries with similar democratic systems to India. India was sanctioned for its participation in the 1971 dispute (1A) and no country was sanctioned for their participation in the 1982 dispute (1B).

Table 1. List of variables

variable	source	definition
dispute characteristics		
fatalities	Correlates of War –The Militarized Interstate Dispute v3.02	Approximation of fatalities in the dispute. It takes values from 0 to 6. 0=no fatality and 6= 999 or more fatalities.
violence	Correlates of War –The Militarized Interstate Dispute v3.02	Highest level of violence taken by the country in the dispute. It takes values from 0 to 21. 0=no militarized action and 21=join interstate war.
country characteristics		
democracy	Polity IV Dataset	Democracy score of the country. It measures general openness of political institutions. It takes values from 0 to 10. 0=least democratic country and 10=most democratic country.
military	Correlates of War National Material Capabilities v3.02& author's calculations	Military personnel as percentage of total population.
previous disputes	Correlates of War –The Militarized Interstate Dispute v3.02 & author's calculations	The number of disputes in which the country participated in the 5 years period before the outbreak of the dispute.
probabilities		
P	Correlates of War –The Militarized Interstate Dispute v3.02 & author's calculations	The probability that a country involved in a dispute will participate in a different dispute[+] in the following 5 years.
P^M	Correlates of War –The Militarized Interstate Dispute v3.02 & National Material Capabilities v3.02& author's calculations	The probability that a country with similar military capabilities to the one involved in the dispute will participate in a different dispute in the following 5 years.
P^D	Correlates of War –The Militarized Interstate Dispute v3.02, Polity IV& author's calculations	The probability that a country with a similar democratic system to country in the dispute will participate in a different dispute in the following 5 years.
P^G	Correlates of War –The Militarized Interstate Dispute v3.02 & author's calculations	The probability that a country situated in the same region[++] of the world as the country involved in the dispute will participate in a different dispute in the following 5 years.
sanctions[++]		
sanction	Hufbauer et al. forthcoming	It takes value 1 if any country involved in the dispute was sanctioned because of its involvement in that dispute. It takes values 0 if no country in the dispute was sanctioned.
multi	Hufbauer et al. forthcoming & authors' calculations	The sanction is multilateral (more than one country imposed the same sanction on the target).

variable	source	definition
help t	Hufbauer et al. forthcoming	It takes value 1 if the target received international assistance and 0 if not.
cost t	Hufbauer et al. forthcoming	Cost imposed on the target as percentage of the target's GNP.
cost s	Hufbauer et al. forthcoming	Cost of the sanction to the sender. Takes values between 1 and 4. 1=major gain and 4=major cost.
success	Hufbauer et al. forthcoming	Success of the sanction. It is a combined score of sanction policy results and sanction effects. It takes values from 1 to 16. 1= total failure and 16 = total success.
sender not in dispute	Hufbauer et al. forthcoming & authors' calculations	The sender is not part of the militarized dispute.
big	Hufbauer et al. forthcoming & authors' calculations	The sender is a big[+++] country or a large coalition of countries.
trade		
trade50	International Trade Database & author's calculations	The amount of trade[++++] between US and the country involved in the dispute decreased by 50% or more in the year following the outbreak of the dispute.
trade75	International Trade Database & author's calculations	The amount of trade between US and the country involved in the dispute decreased by 75% or more in the year following the outbreak of the dispute.
tradegdp50	International Trade Database & author's calculations	The amount of trade between US and the country involved in the dispute/ (GDP of the country in the dispute) decreased by 50% or more in the year following the outbreak of the dispute.
tradegdp75	International Trade Database & author's calculations	The amount of trade between US and the country involved in the dispute/ (GDP of the country in the dispute) decreased by 75% or more in the year following the outbreak of the dispute.
development aid		
aid50	World Development Indicators & author's calculations	The amount of development aid to the country involved in the dispute decreased by 50% or more in the year following the outbreak of the dispute.
aid75	World Development Indicators & author's calculations	The amount of development aid to the country involved in the dispute decreased by 75% or more in the year following the outbreak of the dispute.
aidgdp50	World Development Indicators & author's calculations	Development aid to the country involved in the dispute /(GDP of recipient country) decreased by 50% or more in the year following the outbreak of the dispute.
aidgdp75	World Development Indicators & author's calculations	Development aid to the country involved in the dispute /(GDP of recipient country) decreased by 75% or more in the year following the outbreak of the dispute.

Notes: [+]A different dispute is a dispute that has less than 2 participants in common with the original dispute. [++]The regions are Africa, Central and East Europe, Northern Asia, Latin America, Middle East, North and Central America, Oceania and Australia, South East Asia and Western Europe. [+++]The big countries are United Kingdom, United States and China. The coalitions are the League of Nations, the United Nations and the European Union. [++++] Trade between countries A and B is the sum of the merchandise that A imports from B + the value of the merchandise that B imports from A. The amounts are in million US dollars.

Table 2. Descriptive statistics

variable	observations	mean	SD	min	max
dispute characteristics					
fatalities	4980	.46	1.32	0	6
violence	5600	9.88	7.22	0	21
country characteristics					
democracy	4916	3.95	4.12	0	10
military	5475	.001	.001	0	.02
previous disputes	5572	9.41	8.52	1	78
probabilities					
P	5600	.72	.44	0	1
P^M	5475	.98	.12	0	1
P^D	4916	.97	.15	0	1
P^G	5441	.98	.12	0	1
sanctions					
sanction	4658	.04	.19	0	1
multi	191	.72	.44	0	1
help t	191	.58	.49	0	1
cost t	191	6.39	10.34	0	30
cost s	191	3.19	.99	1	4
success	191	7.77	4.75	1	16
sender not in dispute	191	.43	.49	0	1
big	191	.97	.16	0	1
trade					
trade50	2666	.05	.22	0	1
trade75	2666	.02	.16	0	1
tradegdp50	1185	.02	.15	0	1
tradegdp75	1185	.006	.08	0	1
development aid					
aid50	1517	.05	.23	0	1
aid75	1517	.02	.14	0	1
aidgdp50	1360	.06	.24	0	1
aidgdp75	1360	.02	.14	0	1

Sources: Hufbauer et al. forthcoming, International Trade Database, Correlates of War – Militarized Interstate Dispute v3.02 and National Material Capabilities v3.02, World Development Indicators, Polity IV, and author's calculations.

Notes: Sanction data is available for years 1914-2001, trade data is available for years 1870-1992, development aid is available for years 1960-2001 and militarized disputes data is available for years 1816-2001.

Table 3. Effects of sanctioning a country involved in a dispute on the probability that a country in the same dispute will participate in another dispute in the future

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
sanction	-.09***	.03	-.05*	-.05*	.08**	-.09**	-.11***	.08
	(.04)	(.04)	(.04)	(.04)	(.02)	(.06)	(.05)	(.03)
sanction*multi		-.21***						
		(.12)						
sanction*help t			-.05					
			(.06)					
sanction*cost t				-.004**				
				(.002)				
sanction*cost s					-.07***			
					(.02)			
sanction*success						.0002		
						(.005)		
sanction*sender not in dispute							.02	
							(.03)	
sanction*big sender								-.46**
								(.32)
democracy	.0005	.0004	.0005	.0004	.0005	.0005	.0005	.0005
	(.001)	(.001)	(.001)	(.001)	(.001)	(.001)	(.001)	(.001)
fatalities	-.007*	-.008**	-.006*	-.008**	-.007*	-.007**	-.007*	-.008**
	(.004)	(.004)	(.004)	(.004)	(.004)	(.004)	(.004)	(.004)
military	7.79***	7.91***	7.80***	7.86***	8.01***	7.79***	7.79***	7.78***
	(3.47)	(3.47)	(3.47)	(3.47)	(3.47)	(3.47)	(3.47)	(3.46)
previous disputes	.03***	.03***	.03***	.03***	.03***	.03***	.03***	.03***
	(.001)	(.001)	(.001)	(.001)	(.001)	(.001)	(.001)	(.001)
violence	.0003	.0003	.0003	.0004	.0003	.0003	.0003	.0003
	(.0007)	(.0007)	(.0007)	(.0007)	(.0007)	(.0007)	(.01)	(.0007)
year dummies	yes	yes	yes	yes	yes	yes	yes	yes
observations	3511	3511	3511	3511	3511	3511	3511	3511
pseudo-R^2	26.95%	27.09%	26.97%	27.03%	27.16%	26.95%	26.96%	27.04%

Sources: Hufbauer et al. forthcoming, Correlates of War – Militarized Interstate Dispute v3.02 and National Material Capabilities Data Set, Polity IV, and author's calculations.

Notes: The dependent variable is the P, the probability that a country involved in a dispute will participate in a different dispute in the following 5 years. Results are probit marginal effects. Standard errors are in parentheses. *** denotes significant at 5% level, ** denotes significant at 10% level and * denotes significant at 20% level.

Table 4. Effects of sanctioning a country involved in a dispute on the probability that a similar country to the ones involved in the dispute will participate in another dispute in the future

	(1)	(2)	(3)
sanction	-.12***	-.05**	-.11***
	(.06)	(.04)	(.06)
military	1.03		
	(5.90)		
democracy		-.002**	
		(.001)	
year dummies	yes	yes	yes
region dummies	no	no	yes
observations	400	1193	699
pseudo-R^2	13.58%	16.90%	29.81%

Sources: Hufbauer et al. forthcoming, Correlates of War – Militarized Interstate Dispute v3.02 and National Material Capabilities v3.02, Polity IV, and author's calculations.

Notes: The dependent variable in (1) is P^M, the probability that a country with similar military capabilities to the country involved in the dispute will participate in a different dispute in the following 5 years. The dependent variable in (2) is P^D, the probability that a country with a similar democratic system to the one in the country in the dispute will participate in a different dispute in the following 5 years. The dependent variable in (3) is P^G, the probability that a country situated in the same region of the world as the country involved in the dispute will participate in a different dispute in the following 5 years. Results are probit marginal effects. Standard errors are in parentheses. *** denotes significant at 5% level, ** denotes significant at 10% level and * denotes significant at 20% level.

Table 5. Effects of a large decrease in trade to a country involved in a dispute on the probability that the same country will be involved in another dispute in the future

	(1)	(2)	(3)	(4)
trade50	-.02			
	(.04)			
trade75		-.04		
		(.08)		
tradegdp50			.03	
			(.04)	
tradegdp75				-.09
				(.18)
democracy	.0002	.0002	.002*	.002*
	(.001)	(.001)	(.002)	(.002)
fatalities	.002	.002	.002	.002
	(.006)	(.006)	(.01)	(.01)
military	22.35***	22.24***	24.17***	24.01***
	(7.69)	(7.70)	(11.72)	(11.73)
previous disputes	.04***	.04***	.05***	.05***
	(.002)	(.002)	(.004)	(.004)
violence	-.0002	-.0002	.0004	.0005
	(.0008)	(.0008)	(.001)	(.001)
year dummies	yes	yes	yes	yes
observations	2116	2116	1016	1016
pseudo-R^2	20.68%	20.67%	22.85%	22.58%

Sources: Hufbauer et al. forthcoming, International Trade Database, Correlates of War – Militarized Interstate Dispute v3.02 and National Material Capabilities Data Set, Polity IV, and author's calculations.

Notes: The dependent variable is P, the probability that a country involved in a dispute will participate in a different dispute in the following 5 years. Results are probit marginal effects. Standard errors are in parentheses. *** denotes significant at 5% level, ** denotes significant at 10% level and * denotes significant at 20% level.

Table 6. **Effects of a large decrease in aid to a country involved in a dispute on the probability that the same country will be involved in another dispute in the future**

	(1)	(2)	(3)	(4)
aid50	-.07			
	(.07)			
aid75		-.04		
		(.14)		
aidgdp50			-.07	
			(.07)	
aidgdp75				-.03
				(.13)
democracy	.01*	.004*	.004	.004
	(.01)	(.003)	(.003)	(.003)
fatalities	.01	.01	.008	.008
	(.01)	(.01)	(.01)	(.01)
military	-5.07	-6.37	-2.55	-4.77
	(15.72)	(15.67)	(17.10)	(16.99)
previous disputes	.07***	.07***	.07***	.07***
	(.005)	(.005)	(.005)	(.006)
violence	.001	.001	.0008	.0008
	(.001)	(.001)	(.002)	(.002)
year dummies	yes	yes	yes	yes
observations	1258	1258	1130	1130
pseudo-R^2	22.90%	22.83%	23.77%	23.69%

Sources: Hufbauer et al. forthcoming, World Development Indicators, Correlates of War – Militarized Interstate Dispute v3.02 and National Material Capabilities v3.02, Polity IV, and author's calculations.

Notes: The dependent variable is P, the probability that a country involved in a dispute will participate in a different dispute in the following 5 years. Results are probit marginal effects. Standard errors are in parentheses. *** denotes significant at 5% level, ** denotes significant at 10% level and * denotes significant at 20% level.